



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Donald Eyles  
 Serial No: 08/366,009  
 Filed: 12/29/94  
 For: SYSTEM AND METHOD FOR  
 AUTOMATICALLY EXECUTING  
 DECISIONAL RULES

Paper No:  
 Group: 2309  
 Examiner: Downs  
 Docket No: DR-232J

Commissioner of Patents and Trademarks  
 U.S. Patent and Trademark Office  
 Washington, DC 20231

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 Donna Rosenfield

PRELIMINARY AMENDMENT AND REMARKS

This Preliminary Amendment is in reply to the Office Action mailed July 30, 1996, in the parent application.

The Applicant appreciates the Examiner's thorough examination of the parent application and requests reexamination and reconsideration of the application be made in view of the following remarks.

The Examiner indicated that claims 1 - 25 stand rejected under 35 USC §102(b) as being clearly anticipated by Perkins et al.

Applicant claims a method for automatically evaluating decisional rule containing a task and a condition which must be fulfilled before the task can be performed and for

automatically performing the task when the condition is fulfilled. The method includes entering the decisional rule into computing means and compiling the decisional rule to process the condition. The method also includes providing automatic and continuing iterative evaluations of whether the condition is fulfilled until the condition is fulfilled once. The method further includes automatically performing the task when the condition is fulfilled once and resuming further processing only after the condition is filled once. See claim 1. This method is directed to a "when" type of decisional rule.

Applicant's invention, as set forth in all of his claims, relates to a programmable real-time sequencing system which allows a user, such as an astronaut, who has little or no programming skill, to enter a decisional rule containing, for example, only a condition and a task which is to be performed when a condition is met. An object achieved by this invention is to provide a system and method which does not require manual programming of the system in order to achieve continuing recursive evaluation of conditions contained within a decisional rule. The applicant's invention is a tool that offers improvements over conventional programming languages for the purpose of programming the sequencing (high-level control) of a complex system, such as a spacecraft.

Perkins et al. relates to modifying an expert system to

be able to handle temporal reasoning. The Examiner states that "the WHEN-THEN structures that are entered into the LES shell of Perkins are declarative knowledge structures that are generally autonomous, self-standing entities. Control of execution of the WHEN-THEN structures is conducted by a separate inference engine that provides the automatic evaluation." (Paper No. 19, page 3, lines 4 - 9.)

In contrast, the decisional rules claimed by applicant are not declarative knowledge structures. They are not autonomous and not self-standing entities. The applicant's decisional rules more closely resemble those of conventional languages such as COBOL, C and BASIC in that the structures "are positioned relative to each other in a program, are a procedural element of a program, are not independent, and do not represent declarative knowledge." (Paper No. 19, page 3, lines 15 - 18.) The difference between conventional languages and applicant's invention is that the applicant's invention allows the programming of the real-time sequencing of a system without explicitly programming loops, thus enabling a user who is not a computer programmer to program and control the system as desired.

It is clear that anticipation under 35 U.S.C. 102 is a narrow and technical doctrine and it requires that all elements of the invention must perform substantially the same function in substantially the same way and be all within the one anticipating structure or reference.

Griswold et al. v. Oil Capital Valve Co., 152 U.S.P.Q. 95  
(10th Cir., 1967).

Applicant discloses and claims a programmable real-time sequencing system. Perkins discloses an expert system which includes temporal reasoning. A programmable real-time sequencing system does not perform the same function as an expert system. The purpose of applicant's programmable real-time sequencing system is to control spacecraft, a function which cannot be implemented through the use of an expert system. The applicant's system allows programming of real-time sequencing of a system without explicitly programming loops. The fact that Perkins allows a quite different function to be accomplished without requiring the explicit programming of loops is irrelevant. Applicant's invention does not perform substantially the same function in substantially the same way as disclosed by the Perkins reference. Therefore, it is respectfully submitted that applicant's invention is not anticipated by Perkins et al.

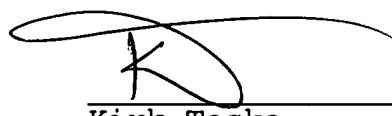
Applicant teaches a method for automatically evaluating a decisional rule containing a task and a condition which must be fulfilled before the task can be performed and for automatically performing the task when the condition is fulfilled comprising, entering said decisional rule into computing means, compiling said decisional rule to parse said condition, providing automatic and continuing iterative evaluations of whether said condition is fulfilled until

said condition is fulfilled once, automatically performing  
said task when said condition is fulfilled one, and resuming  
further processing only after said condition is fulfilled  
once. (See claim 1)

Each of Examiner's rejections has been addressed or traversed. Accordingly, it is respectfully submitted that the application is in condition for allowance. Early and favorable action is respectfully requested.

If for any reason this RESPONSE is found to be INCOMPLETE, or if at any time it appears that a TELEPHONE CONFERENCE with counsel would help advance prosecution, please telephone the undersigned or his associate, Joseph S. Iandiorio, collect in Waltham, Massachusetts, (617) 890-5678.

Respectfully submitted,



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